

WHAT IS CLAIMED IS

1. A fiber optic connector system, comprising:

a housing having opposite first and second end portions and a midplane lying between said end portions;

first and second daughterboards lying respectively in said first and second housing end portions, each daughterboard being longitudinally slideable inwardly toward said midplane to a latched position and outward away from said midplane;

first and second connector assemblies mounted respectively on said first and second daughterboards, said connector assemblies each including a fiber optic connector with at least one terminus that has a terminus tip and that is mateable to the other terminus by their terminus tips abutting each other, and at least one of said connector assemblies including a mounting bracket fixed to the corresponding daughterboard with the corresponding connector being mounted to slide longitudinally on the mounting bracket and being biased inwardly relative to the mounting bracket.

2. The system described in claim 1 wherein at least one of said connectors includes a connector frame and a ferrule spring that biases the corresponding deflectable terminus inward while allowing the deflectable terminus to be deflected outward with respect to the frame when the deflectable terminus engages a mating terminus, the deflectable terminus having a tip that preferably lies no further outward than a predetermined maximum outward position relative to the corresponding connector frame, and wherein:

each of said connector assemblies has a pair of standoffs lying on opposite sides of the corresponding connector, each standoff being fixed

against outward longitudinal movement with respect to one of said connectors, said standoffs having inner standoff tips, the standoff tips of the first and second connector assemblies being aligned with each other so said tips abut one another when the connectors are fully mated;

said standoff tips being positioned to abut one another after said deflectable terminus has been deflected outwardly, but before said deflectable terminus is deflected outward beyond said predetermined maximum outward position.

3. The system described in claim 1 wherein:

said mounting bracket includes an outer end forming a pair of mounting bracket holes;

each of said connector assemblies includes a body on which a corresponding one of the connectors is mounted, each body having a pair of rod-receiving holes aligned with said mounting bracket holes;

each of said connector assemblies includes a rod with an inward part forming a standoff and an outer part extending through one of said rod-receiving holes in said body and through a mounting bracket hole in said mounting bracket, and each rod carrying an inwardly-facing shoulder lying outward of a corresponding mounting bracket hole; and including

a pair of coil springs each lying around one of said rods and lying between said body and said mounting bracket outer end to bias the body inward relative to the mounting bracket;

each of said rods being fixed against outward movement relative to a corresponding one of said bodies, and each of said standoffs formed by said rod inner ends is positioned to engage a standoff of another of said connector assemblies to limit inward movement of said connectors.

4. The system described in claim 1 wherein:

each of said connector assemblies includes a body with each connector being mounted on a corresponding body, each body forming a tongue guide and each bracket forming an inwardly-projecting tongue that is slideably positioned in a corresponding tongue guide;

each tongue lying between the corresponding daughterboard and the corresponding connector.

5. The system described in claim 4 wherein:

each tongue lies loosely in a corresponding tongue guide to purposely allow body shifting of at least 0.01 inch perpendicular to said inward and outward directions.

6. A fiber optic connector system for connecting first and second fiber optic connectors that each includes a connector frame and a plurality of optic fiber termini in the frame, each terminus including a tip that must abut a tip of a terminus of the other connector for the termini to mate, and at least one of said optic connectors includes a plurality of termini compression springs that each biases one of its termini inwardly, wherein the connector system includes a housing and a motherboard structure lying in the housing, comprising:

first and second daughterboards;

first and second mounting brackets each fixed to one of said daughterboards;

first and second bodies, each being slideably mounted in inward and outward longitudinal directions on a corresponding one of said mounting brackets and being spring biased inwardly, and each connector being mounted on one of said bodies;

a pair of guide assemblies, each including a guide pin element and walls forming a pin-receiving bore element, one element of each guide assembly being mounted on said motherboard structure and the other element of the guide assembly being mounted on the body of each connector assembly;

standoff means for preventing said connectors from moving further towards each other when said ferrule tips of said connectors have abutted one another and said ferrule springs have being partially compressed;

said housing including a pair of daughterboard guides that each guides one of said daughterboards in inward and outward sliding toward and away from the motherboard structure, and a pair of latches that each retains a corresponding daughterboard in a fully inwardly inserted position in the housing, said motherboard structure having at least one opening that allows said connector ferrules and said standoff means of said first and second connectors to directly engage each other.

7. The system described in claim 6 wherein:

said standoff means includes a pair of posts fixed against outward movement with respect to each of said bodies and having post inner ends, said motherboard structure having opening areas that allow the post inner ends of posts mounted on the first and second bodies to directly abut one another.

8. The system described in claim 7 wherein:

said posts are each slideable inward and outward on one of said mounting brackets and have post outer ends that project through holes in said mounting bracket, said posts having shoulders that can abut rear ends of said mounting brackets;

a plurality of compression springs, each lying around one of said posts and biasing a corresponding body inwardly with respect to the mounting bracket;

said posts lie loosely in said holes of said mounting bracket, to enable the connectors to shift positions perpendicular to said inward and outward directions.

9. A method for mating pairs of optic termini of first and second optic fiber connectors, wherein the termini of each pair have tips that abut when the pair of termini mate, including:

slideably mounting said first and second connectors each on a mounting bracket of first and second daughterboards, respectively, to allow each connector to slide in inward and outward directions on the corresponding mounting bracket, and biasing each connector inwardly with respect to the corresponding mounting bracket;

sliding each daughterboard inwardly toward an opposite side of a midplane so the daughterboards slide toward each other, until termini tips of all pairs of mating termini abut, and continuing to slide the daughter boards inward toward each other while the connectors remain stationary, until the daughterboards are latched in fully inward daughterboard positions.

10. The method described in claim 9 wherein:

said step of slideably mounting each connector includes mounting the connector on a corresponding body that is slideably mounted on a corresponding one of said mounting brackets; and including

establishing a pair of standoffs on each of said bodies;

said step of sliding each daughterboard inward includes sliding the

daughterboards inward until standoff tips of said standoffs on said first and second connectors abut one another, said step of establishing said standoffs including positioning their standoff so the standoff tips abut only after said termini tips of all pairs of mating termini have abutted.